



APPLICATIONS UNDER EXAMINATION

CEDAR

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(*Thuja occidentalis*)

Proposed denomination: 'Thusid4'
Application number: 19-10006
Application date: 2019/09/19
Applicant: Gurjit Sidhu, Mission, British Columbia
Breeder: Gurjit Sidhu, Mission, British Columbia

Varieties used for comparison: 'Smaragd' and 'Brandon'

Summary: *The plants of 'Thusid4' are conical whereas those of both reference varieties are narrow columnar. The plants of 'Thusid4' are smaller than those of both reference varieties. The plants of 'Thusid4' have dense foliage whereas the plants of both reference varieties have a medium density of foliage. The plants of 'Thusid4' have dense branching whereas the plants of 'Smaragd' have a medium density of branching and those of 'Brandon' a branching density ranging from sparse to medium. The branches of 'Thusid4' are longer than those of 'Smaragd'. The branchlets of the first order of 'Thusid4' are narrower than those of both reference varieties. The branchlets of the last order for 'Thusid4' have a medium density whereas those of both reference varieties are sparse. In the summer, the upper side of the leaf of 'Thusid4' is medium brown green whereas that of 'Brandon' is dark green. The leaf of 'Thusid4' has moderate glossiness whereas the leaf of 'Brandon' has weak glossiness.*

Description:

PLANT: evergreen, absent or very weak fragrance, conical shape, dense foliage overall, medium green colour group

BRANCH: many, attitude ranging from erect to semi-erect, soft to medium stiffness, reddish brown when aged

BRANCHLETS OF FIRST ORDER: dense, light green stem, absent or very weak anthocyanin colouration

BRANCHLETS OF LAST ORDER: medium density

LEAF: decussate arrangement around axis of branchlet, scale-like, acute apex, entire margin, involute margin fold, medium degree of glossiness, no variegation

LEAF FROM OUTERMOST BRANCHLETS (UPPER SIDE): medium green (RHS 143A) in spring, medium brown green (RHS 138A) in summer, dark green in winter

LEAF FROM OUTERMOST BRANCHLETS (LOWER SIDE): medium green (RHS 143A-B) in spring, medium brown green (RHS 138B) in summer, dark green in winter

Origin and Breeding: 'Thusid4' originated from a naturally occurring whole plant mutation of the *Thuja occidentalis* variety 'Smaragd' discovered and developed by the breeder, Gurjit Sidhu, in Deroche, British Columbia. 'Thusid4' was discovered in a block of 3.7 litre container grown plants in the summer of 2015. The new variety was selected based on plant growth habit, plant density as well as colour and texture of foliage. 'Thusid4' was evaluated in greenhouse trials from 2015 to 2019 and assessed for stability, uniformity and overall performance. Asexual reproduction of 'Thusid4' was first conducted by stem cuttings in the February of 2016, in Mission, British Columbia.

Tests and Trials: The comparative trial for 'Thusid4' was conducted in an outdoor irrigated container during the spring of 2020 at Bioflora Inc., in St. Thomas, Ontario. The trial included a total of 12 plants of the candidate variety and 8 plants of each reference variety. All plants were grown from bare-rooted cuttings and transplanted into 3.7 litre pots in June 2020. The trial was arranged outdoors in rows with 1 metre spacing between plants. Observations and measurements were taken from 10 plants of each variety on May 7, 2020. All colour determinations were made using the 2007 Royal Horticultural Society (RHS) Colour Chart.

Comparison table for 'Thusid4'

	'Thusid4'	'Smaragd'*	'Brandon'*
<i>Plant height (cm)</i>			
mean	36.19	61.75	64.94
std. deviation	3.25	3.90	6.23
<i>Plant width (cm)</i>			
mean	16.03	23.94	27.79
std. deviation	0.84	2.13	1.62
<i>Branch length (cm)</i>			
mean	16.76	18.95	17.24
std. deviation	0.97	1.11	1.09
<i>Width of branchlet of the first order (cm)</i>			
mean	4.30	5.55	7.95
std. deviation	0.41	0.53	0.79
<i>Colour of leaf in summer (RHS)</i>			
upper side	138A	138A	137A

*reference varieties



Cedar: 'Thusid4' (left) with reference varieties 'Smaragd' (centre) and 'Brandon' (right)



Cedar: 'Thusid4' (left) with reference varieties 'Smaragd' (centre) and 'Brandon' (right)